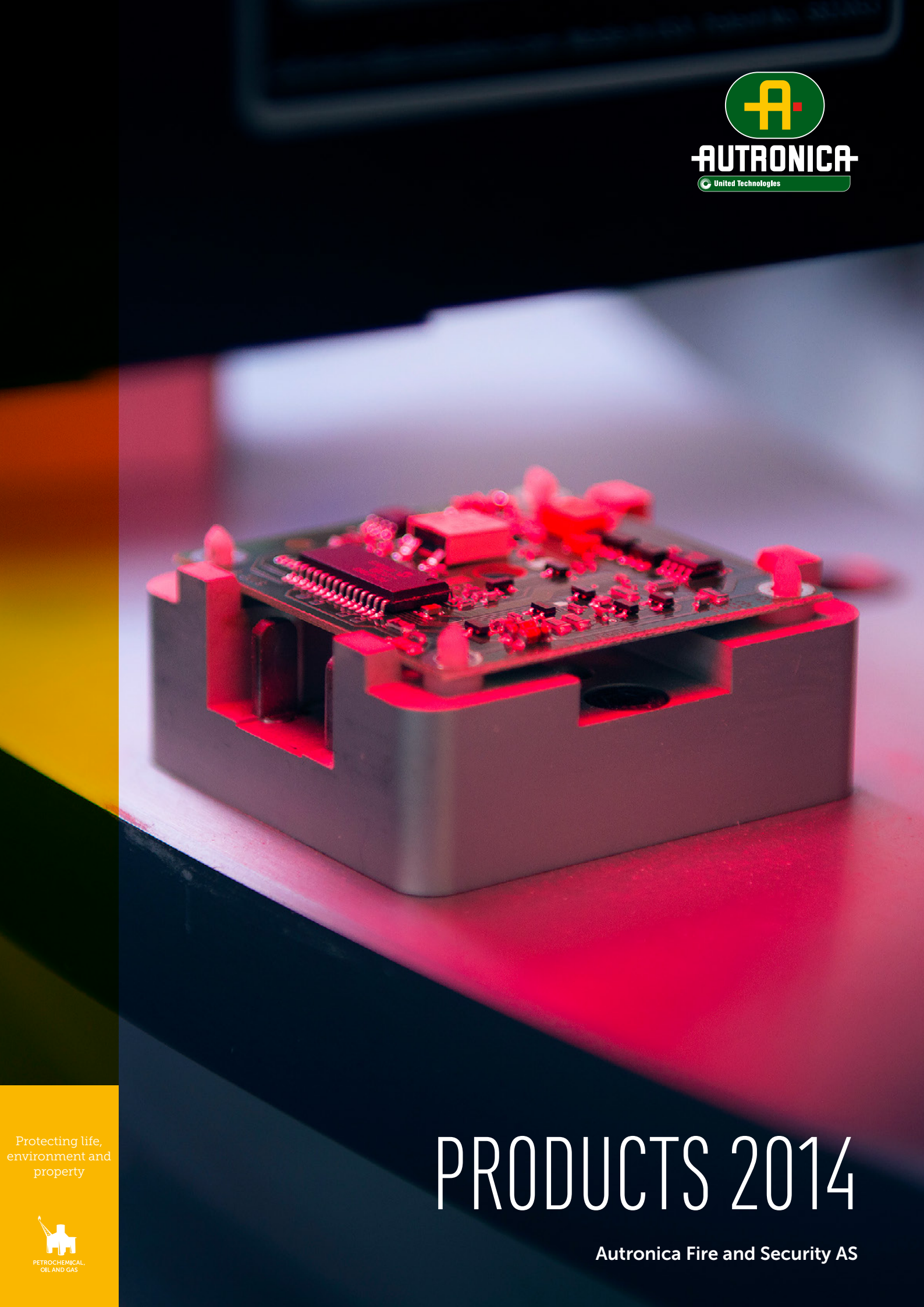

AUTRONICA

United Technologies

Protecting life, environment and property

PETROCHEMICAL, OIL AND GAS

PRODUCTS 2014

Autronica Fire and Security AS

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Stringent control throughout Autronica Fire and Security AS assures the excellence of our products and services. For a complete overview of our approvals, please visit our web site www.autronicafire.com.

AUTROSAFE 4 IFG

– the new generation interactive fire and gas detection systems

Our task was demanding, yet simple: Take the best fire and gas (F&G) safety system around and make it even better. The new and improved AutroSafe Integrated Fire and Gas (IFG) 4 is designed for the toughest requirements and expands the possibilities of a F&G detection system even further. From offshore platforms to LNG plants to refineries, AutroSafe IFG 4 delivers the most rigorous F&G safety yet.

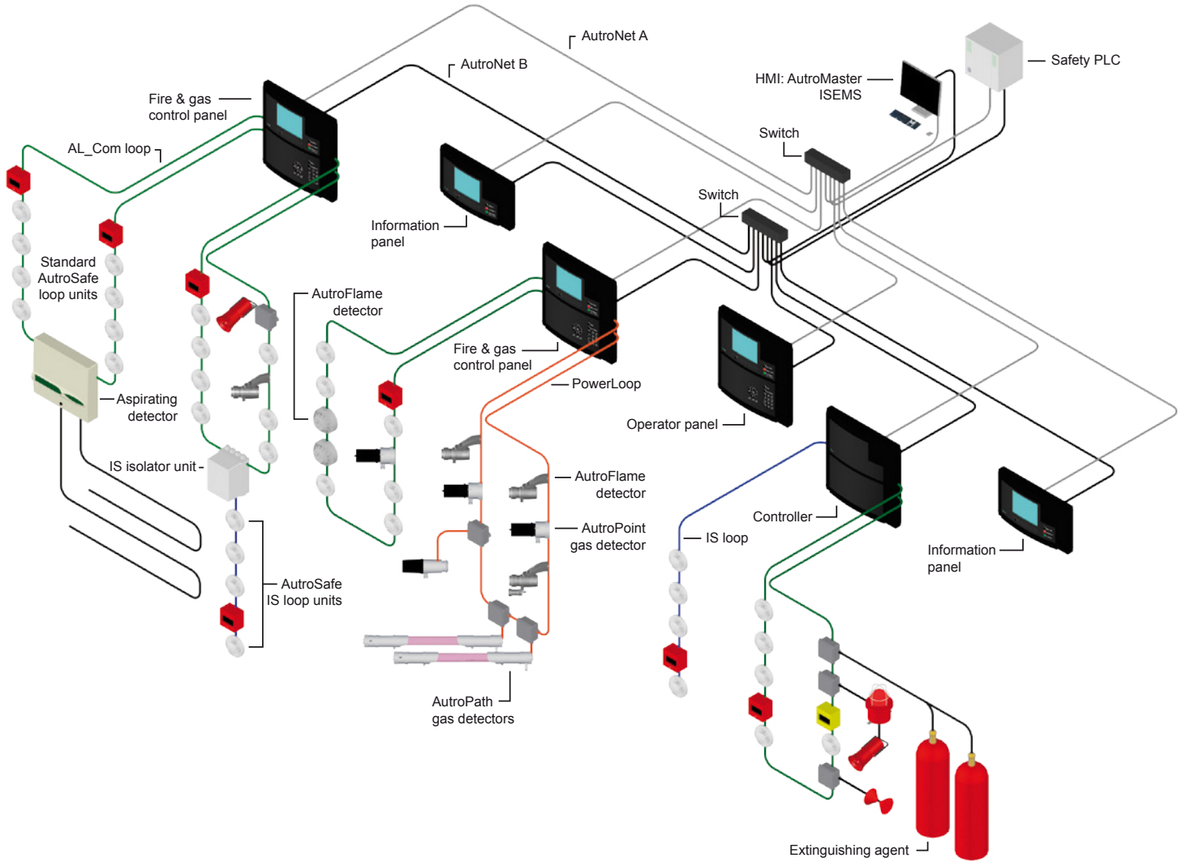
Autronica Fire and Security launched AutroSafe, our high-end fire detection system, in 1999. From day one, AutroSafe has proven its unique stability and reliability in more than 15 000 of installations worldwide, both on- and offshore. AutroSafe IFG 4 provides advanced functionality for a wide range of applications. The system is designed to meet all requirements in the high-end segment of the offshore market. It is certified according to European directives (CPD) requiring EN 54 compliance, and is approved by Factory Mutual (FM) according to NFPA 72. Additionally, the F&G system is approved according to SIL2 requirements by TÜV Nord.

Reliable communication is paramount to your safety. That's why we're adding AutroNet to the AutroSafe IFG system, an innovative network solution safeguarding communication between panels. AutroNet ensures a redundant and high-speed network, expanding the reach of the AutroSafe IFG system even further.

History proves you can rely on AutroSafe IFG. All existing functionality has stood up to the toughest tests worldwide for more than 10 years. With AutroSafe IFG 4, Autronica has once again taken fire safety to a higher level.

Autronica Fire and Security AS has once again taken fire safety to a higher level

Architectural example



AutroSafe IFG – a complete solution for fire and gas detection

Panels – AutroSafe 4

The AutroSafe 4 family consists of four different panel types. These are:

- **Fire alarm control panel, BS-420**. BS-420 is the main panel in the AutroSafe family. It can be used as a stand-alone panel as well as part of a network system. All operations, alarm management, indications and other functions within an operation zone are controlled and handled by the panel. The panel is equipped with a display, light indicators, a numeric keypad, a navigation wheel and special function buttons (e.g. Silence Alarms). Loop driver, input and output modules can be connected. An integrated AutroFieldBus interface makes it possible to connect AutroFieldBus equipment to the panel. All AutroSafe systems must include at least one BS-420 panel.
- **Operator panel, BS-430**. As for the BS-420 panel, all operations, alarm management, indications and other functions within an operation zone are controlled and handled by the BS-430 panel. The panel is equipped with a display, light indicators, a numeric keypad, a navigation wheel and special function buttons (e.g. Silence Alarms). No loop driver, input or output modules can be connected to this panel.
- **Controller, BC-420**. The BC-420 serves as a connection unit for loop driver modules as well as input and output modules. It is equipped with two light indicators for System Fault and Power. The panel has neither display nor operator buttons. An integrated AutroFieldBus interface makes it possible to connect AutroFieldBus equipment to the panel.
- **Controller rack unit BC-440.** Serves as a connection unit for the detection loop, alarm sounders, controls and inputs. It is a variant of the BC-420 prepared for rack installations. Together with the I/O modules the unit will have the full functionality of the BC-420. Equipped with 2 Ethernet ports, one AutroFieldBus port and one serial port.
- **Repeater panel, BU-BV-420**. Physical dipswitches on the panel control the BU-BV-420 panel function. As an alarm operation panel it can operate alarms within one or more operation zones. As an information panel no operation of alarms are available. The information panel provides information from one or more operation zones.

In addition to the panels the power cabinet BP-405 is a part of the AutroSafe 4 family. The cabinet includes a 5 A power pack (BPS-405) which provides six 24 VDC / 2 A outputs. The input voltage is 115 / 230 VAC and the total maximum power available is 24 VDC / 5 A. An integrated AutroFieldBus interface makes it possible for the power pack to communicate (send fault messages) with the BS-420 or BC-420 panel. The cabinet provides space for two 12 V / 18 Ah batteries (not included).

Panel kits – AutroSafe 4

An Al_Com+ stack can contain up to six loop driver modules (BSD-3xx). By using AutroFieldBus, an additional Al_Com+ stack (with up to six additional loop driver modules) can be added to the system.

NOTE! The AutroSafe panels are certified with the Al_Com+ modules mounted inside the panel cabinet.

Image	Part number	Description	Including	Options
	116-KIT-BS-420G	Fire alarm control panel kit	Panel front BSV-420G Cabinet UEA-400 Power supply module BSS-310A Communication module BSL-310 Text foils E-2879/GB-G	Loop driver module BSD-310 Loop driver module H.P. BSD-311 BS-100 loop driver module BSD-330 Output module BSB-310A Output module BSJ-310 Input module BSE-310 Input module BSE-320 Dual power mon. module BSS-311 Dual serial communication ports
	116-KIT-BS-420G2	Fire alarm control panel kit approved acc. to IEC 61508 SIL2		
	116-KIT-BC-420	Controller kit	Panel front BCV-420 Cabinet UEA-400 Power supply module BSS-310A Communication module BSL-310 Text foils E-2880/GB-G*	Loop driver module BSD-310 Loop driver module H.P. BSD-311 BS-100 loop driver module BSD-330 Output module BSB-310A Output module BSJ-310 Input module BSE-310 Input module BSE-320
	116-KIT-BC-420G2	Controller kit approved acc. to IEC 61508 SIL2		
	116-BC-440	Controller rack unit	–	–
	116-BC-440G2	Controller rack unit approved acc. to IEC 61508 SIL2		
	116-KIT-BS-430	Operator panel kit	Panel front BSV-420 Cabinet UE-1488 Text foils E-2879/GB-G*	–
	116-KIT-BS-430G2	Operator panel kit approved acc. to IEC 61508 SIL2		
	116-KIT-BU-BV-420	Repeater panel kit	Panel front BUV-420 Cabinet UE-1489 Text foils E-2880/GB-G*	–
	116-KIT-BU-BV-420G2	Repeater panel kit approved acc. to IEC 61508 SIL2		
	116-BP-405	Power cabinet	Cabinet UEA-410 5 A / 24 V power unit BPS-405	Available space for 2 x 12 V / 18 Ah batteries

*: Please specify language GB-G when ordering

Switches

A network solution (AutroNet) with more than two panels demands the use of switches. Only Phoenix Ethernet switches are approved and supported by Autronica Fire and Security AS. The type and number of switches depends on the installation/network construction (no. of panels and distance between panels and switches)

Image	Part number	Description*	Current consumption (max.) @ 24 VDC	RJ45 ports	Fibre optic ports**	Operating temperature
	116-5151-030.2127	FL switch SFNT 5TX	120 mA	5	–	-40 - 75°C
	116-5151-030.2128	FL switch SFNT 4TX/FX	160 mA	4	1 MM (SC)	-40 - 75°C
	116-5151-030.2129	FL switch SFNT 8TX	153 mA	8	–	-40 - 75°C
	116-5151-030.2130	FL switch SFNT 7TX/FX	175 mA	7	1 MM (SC)	-40 - 70°C
	116-5151-030.2131	FL switch LM 5TX	150 mA	5		-40 - 70°C
	116-5151-030.2132	FL switch LM 4TX/FX	380 mA	4	1 MM (SC)	-40 - 70°C
	116-5151-030.2133	FL switch LM 4TX/2FX	400 mA	4	2 MM (SC)	-40 - 70°C

* SFNT = Standard Function, Narrow housing, high Temperature range
LM = Lean Managed
SFNB = Standard Function, Narrow housing, Basic entry level
SFN = Standard Function, Narrow housing

** MM = Multi Mode
SM = Single Mode
SC = Square Connector
(Set and Click, Stab and Click, Standard Connector)

Image	Part number	Description*	Current consumption (max.) @ 24 VDC	RJ45 ports	Fibre optic ports**	Operating temperature
	116-5151-030.2134	FL switch LM 4TX/FX SM	380 mA	4	1 SM (SC)	-40 - 70°C
	116-5151-030.2135	FL switch LM 4TX/2FX SM	400 mA	4	2 SM (SC)	-40 - 70°C
	116-5151-030.2142	FL switch SFNB 4TX/FX SM 20	185 mA	4	1 SM (SC)	0 - 60°C

* SFNT = Standard Function, Narrow housing, high Temperature range
LM = Lean Managed
SFNB = Standard Function, Narrow housing, Basic entry level
SFN = Standard Function, Narrow housing

** MM = Multi Mode
SM = Single Mode
SC = Square Connector
(Set and Click, Stab and Click, Standard Connector)

Printer

Image	Part number	Description
	116-BUP-400	Log printer unit for AutroSafe 4
–	116-1712-012.0001	Printer paper 57 x 46 x 13 mm / 25 m

I/O modules

AutroSafe IFG features input and output modules for different applications (monitored alarm loops, servicing relays and LEDs, control inputs, etc.). The modules have the same format, mount onto the panels' DIN-mounting rail and plug into one another.

Important note on module capacity.
Each fire alarm panel/controller contains a power supply module BSS-310A and a communication module BSL-310.
The BS-420 and BC-420 panels have space for up to 12 modules totally inside the cabinet.
An Al_Com+ stack can contain up to six loop driver modules (BSD-3xx)
By using AutroFieldBus, an additional Al_Com+ stack (with up to six additional loop driver modules) can be added to the system.

NOTE! The AutroSafe panels are certified with the Al_Com+ modules mounted inside the panel cabinet.

Image	Part number	Description	Monitored inputs	Monitored outputs	Total inputs	Total outputs	Monitors short circuits	Ensures loop communication	For use in EX zone 2 only	Amplified power output	Maximum per panel	Notes
	116-BSB-310A	Output module		•	0	4	•					Requires external 24V
	116-BSD-310	Loop driver module			–	–	•	•			6/12	Max. 127 loop units
	116-BSD-310/N	Loop driver module			–	–	•	•	•		6/12	Max. 127 loop units
	116-BSD-311	Loop driver module H.P.			–	–	•	•		•	6/12	

Image	Part number	Description	Monitored inputs	Monitored outputs	Total inputs	Total outputs	Monitors short circuits	Ensures loop communication	For use in EX zone 2 only	Amplified power output	Maximum per panel	Notes
	116-BSD-330	BS-100 loop driver module			–	–	•	•			8	
	116-BSE-310	Input module	•		4	0						
	116-BSE-320	Input module			8	0						Galvanically insulated inputs
	116-BSJ-310	Output module			0	8						Open transistor outputs
	116-BSS-310A	Power supply module			4	0						
	116-BSS-311	Dual power monitoring module			4	4						

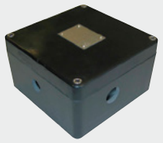
Communication

Image	Part number	Description
	116-BSD-321/1	AutroFieldBus protocol converter Interface between AutroFieldBus and Al_Com+. Enables communication between all Al_Com+ modules in an Al_Com+ stack connected to AutroFieldBus. The module enables AutroSafe DualSafety configuration, with both ordinary Al_Com communication and AutroFieldBus.
	116-BSL-310	AutroSafe communication module, serves as an interface for the common internal communication line between all the different I/O modules. Part of the fire alarm control panel.
	116-BSL-321	Multi mode fibre optic converter Amplifier for AUTROLON/AutroFieldBus networks, which acts as a fibre optic modem. The converter ensures reliable communication for distances of up to 3000 m. Uses multi-mode (62.5/125 µm or 50/125 µm) fibre-optic cable. Degree of protection: IP20
	116-BSL-322	Single mode fibre optic converter Amplifier for AUTROLON/AutroFieldBus networks, which acts as a fibre-optic modem. The converter ensures reliable communication for distances of up to 15000 m. Uses single-mode (9/125 µm) fibre-optic cable. Degree of protection: IP20
	116-BSL-325	AUTROLON/AutroFieldBus communication amplifier Amplifier for communication signals on networks. The amplifier ensures reliable communication in systems where there is great distance between the system panels, and in applications where there are many panels. The amplifier increases maximum cable length from 1000 m to 2800 m. Degree of protection: IP20
	116-BSL-336	Voyage data recorder interface Allows AutroSafe fire and gas detection systems data to be logged on voyage data recording systems. Converts standard AutroSafe AutroCom messages to NMEA-0183 standards-compliant strings, allowing events to be written to the VDR. Degree of protection: IP20
	116-BSL-337	AutroSafe BU-70 interface module Enables the connection of BU-70/BU-100/BU-101 to AutroSafe. This is a simple, cost effective way to upgrade BS-100 systems to AutroSafe. The RS232/20 mA current loop converter BSL-12/2 must be used to convert RS232 to 20 mA current loop communication. Degree of protection: IP20

OPC server

Part number	Description
116-AS-OPC-SERVER/CD1	AutroSafe OPC server CD V1.2 incl. access code for access level 1. Includes read access to all status information for detectors, output and alarm devices. This level of license will also make it possible to send (write) Silence, Reset and SetTime commands to the AutroSafe system. Within this level you can also Disable/Enable detectors.
116-AS-OPC-SERVER/CD2	AutroSafe OPC server CD V1.2 incl. access code for access level 2. Includes all functionality in level 1, plus the possibility to Activate/Deactivate and Enable/Disable outputs and alarm devices via OPC write commands.
116-AS-OPC-SERVER/CD3	AutroSafe OPC server CD V1.2 incl. access code for access level 3. Includes all functionality in level 1 and 2. This level also provides additional information for points, for example AMEAS, Temp, Smoke, Alarm limits and Engineering values.

Integrated fire and gas (IFG) modules

Image	Part number	Description
	116-BN-342/1	PowerLoop 4-20 mA input unit, rack mounted A general-purpose PowerLoop interface designed for third-party detectors connected to the AutroSafe IFG system. The unit has a 4-20 mA input galvanically isolated from the PowerLoop. 19" 3U rack version, bare PCB with 19" rack front panel, no DC/DC. Degree of protection: IP20
	116-BN-342/2	PowerLoop 4-20 mA input unit, DIN rail mounted A general-purpose PowerLoop interface designed for third party detectors connected to the AutroSafe IFG system. The unit has a 4-20 mA input galvanically isolated from the PowerLoop. DIN rail version, bare PCB in an open DIN rail box, no DC/DC. Degree of protection: IP20
	116-BN-342/EX	PowerLoop 4-20 mA input unit, field mounted A general-purpose PowerLoop interface designed for third party detectors connected to the AutroSafe IFG system. The unit has a 24 VDC/400 mA supply output providing power to the connected detectors, plus a 4-20 mA input galvanically isolated from the PowerLoop. EEX me version including 9,5 W 24 VDC/DC for external detector power supply. Cable entry, PowerLoop: 2 x M25. Cable entry, 4-20 mA input: 1 x M25 Degree of protection: IP66
	116-BSD-340/1	PowerLoop driver module, rack mounted The module has a capacity of up to 15 detectors connected directly with protocol interface or through interface unit (BN-342/XX). The number of detectors must be verified by means of a PowerLoop calculator. Up to 31 BSD-340 units can be connected to one alarm panel through the AutroFieldBus driver (EAU-341). Degree of protection: IP20
	116-BSD-340/2	PowerLoop driver module, DIN rail mounted The module has a capacity of up to 15 detectors connected directly with protocol interface or through interface unit (BN-342/XX). The number of detectors must be verified by means of a PowerLoop calculator. Up to 31 BSD-340 units can be connected to one alarm panel through the AutroFieldBus driver (EAU-341). Degree of protection: IP20
	116-BSD-340/EX	PowerLoop driver, for hazardous areas, zone 1 and 2, field mounted The module has a capacity of up to 15 detectors connected directly with protocol interface or through interface unit (BN-342/XX). The number of detectors must be verified by means of a PowerLoop calculator. Up to 31 BSD-340 units can be connected to one alarm panel through the AutroFieldBus driver (EAU-341). Dimensions of entries: 5 x M20, 1 x M25. Degree of protection: IP66

Cabinets and racks

Part number	Description	Dimensions H x W x D (mm)	Notes
116-UEA-323/1	Cabinet for flush mounting BS-410/-420/BC-420	320 x 320 x 140	
116-BT-400/1	Termination cabinet for AutroSafe 4		
116-BT-401/B	Battery cabinet 2 x 12 V/12 Ah	346 x 195 x 107	
116-BT-423/B	Battery cabinet 2 x 12 V/27 Ah	152 x 420 x 142	

Mounting accessories for cabinets and racks

Module height unit = 44.5 mm. Width unless specified otherwise = 48.3 mm.
Rittal cabinets or equivalent are available on request.

Part number	Description	Dimensions (mm)	Height units	Notes
116-UB-383	19" subrack, Europe	w = 160	3	
116-UW-1454	Mounting kit for 19'' cabinet/rack. Front panel.	h = 399	9	For BS-420
116-UW-1482	Mounting kit for 19'' cabinet/rack. Front panel	h = 266	6	For BU-BV-420
116-UW-1514	Mounting plate for flush mounting panel front in 19" cabinet/rack	h = 399	9	For BS-420/-430 and BC-420
116-UW-1516/1	Dummy plate 19"	h x w = 128 x 60	3	For BC-440
116-UW-1518	Mounting plate	h x w = 622 x 455	–	For mounting AutroSafe 4 front panel on double BS-100 cabinet
116-UE-1662	Spacer (between 2 rack mounted panels)	h x w = 80 x 137.5	–	

Batteries

Autronica Fire and Security AS offers accumulator batteries for every Autronica fire alarm system. Generally, 24 VDC back-up is used, this requires two batteries per panel. All batteries are sealed and can be placed in cabinets.

Part number	Description	Voltage	Weight	Dimensions L x W x H
116-4160-001.	FIAMM FG20721	12 V / 7.2 Ah	2,4 kg	79 x 56 x 106 mm
116-4160-002.	FIAMM FG21803	12 V / 18 Ah	5,9 kg	181 x 76 x 167 mm
116-4160-003.	FIAMM FG22703	12 V / 27 Ah	8,7 kg	166 x 175 x 125 mm
116-4160-004.	FIAMM FG24204	12 V / 42 Ah	13,8 kg	196 x 163 x 174 mm
116-4160-005.0001	FIAMM FG21202	12 V / 12 Ah	4,0 kg	151 x 98 x 99 mm
116-4160-005.0003	FIAMM FG20341	12 V / 3 Ah	1,41 kg	134 x 67 x 60 mm
116-4160-006.	FIAMM FG27004	12 V / 70 Ah	22,7 kg	350 x 166 x 174 mm
116-4160-006.0001	Sonnenschein A512/115	12 V / 115 Ah	40,0 kg	286 x 269 x 230 mm
116-4160-006.0003	Sonnenschein A512/85	12 V / 80 Ah	31,0 kg	330 x 171 x 236 mm
116-4160-006.0004	Sonnenschein A115/200	12 V / 200 Ah	70,0 kg	518 x 274 x 242 mm

Power supply units

Part number	Description	Output voltage
116-BPS-405/BOXED	Power supply unit for AutroSafe 4	24 VDC / 5 A
116-BPS-410/BOXED	Power supply unit for AutroSafe 4	24 VDC / 10 A
116-BPS-410/115/BOXED	Power supply unit for AutroSafe 4, 115 VAC	24 VDC / 10 A
116-BSS-103A	Power supply for AutroSafe 3, including cover	27,3 VDC / 3 A
116-BSS-103A/02	Power supply, without cover, with NTC resistor. Temperature compensated battery charging	27,3 VDC / 3 A
116-4550-012.2410	Power supply for AutroSafe, for additional power. Temperature compensated battery charging	27,3 VDC / 10 A
116-4660-016.0001	DC/DC converter MINI-PS 12-24 DC / 24 DC1	24 VDC / 1 A
116-4660-055.0001	DC/DC converter	24 VDC / 6,3 A

Cables

Part number	Description
116-XJA-027	Connection cable for AS 2000; for connection between PC and fire alarm panel (AS-SYSUTILPAC includes this item)
116-XJA-028	Connection cable for AS LoopSim, for PC panel interconnection
116-XJA-033	Connection cable for EAU-321, for PC module interconnection
116-XGE-1/10-XX	Ribbon cable. Optional lengths: 7, 40 or 110 cm. Replace XX with length
116-XGK-1/10-XX	Ribbon cable. Optional lengths: 40, 100 or 150 cm. Replace XX with length
116-XGE-1/14-XX	Ribbon cable. Optional lengths: 7, 30, 40, 90 or 200 cm. Replace XX with length
116-XGK-1/26-140	Ribbon cable. Length: 140 cm
116-XL-073	Conversion cable from AutroSafe 3 to AutroSafe 4

Relays

Part number	Description
116-7624-030.0001	Relay PLC RSC 24 DC/21, single change-over contact
116-7624-030.0002	Relay PLC RSC 24 DC/21-21, double change-over contact

Customer configuration

Part number	Description
116-PROG-AUTROSAFE	Customer specific software for AutroSafe
116-TXT-AUTROSAFE	Customer texts/controls

AUTROMASTER

– a fully integrated safety and emergency management system

The AutroMaster is an integrated safety and emergency management system combining the strengths of a powerful fire detection system with control and monitoring functions dedicated to make sure you are in control in case of an emergency.

Graphical user interface
The AutroMaster provides an intuitive control and monitoring interface built to save valuable time when every second counts. Status information is displayed in real-time with easy-to-understand graphical representation. Navigation is fast and instinctual and the powerful zoom functions allow you to monitor all areas in great detail.

AutroMaster displays values for smoke density and heat in dynamic colours, making it easy to perform the necessary actions during emergencies.

Interoperability
Control and monitoring of third party systems can easily be performed via serial protocols or network interfaces. They provide connection to basically any source – network time servers, telephone systems for text messaging, public address systems for automated voice messaging, emergency lights, access control systems, CCTV, automation systems and so on.

Logging and reporting
The AutroMaster keeps track of all events in the system and has a built-in report generator. This provides a cost-effective system log for maintenance and documentation purposes.

Decision-making tools
In high-risk environments around the world, a seemingly innocuous fire can quickly escalate into an emergency of large proportions. When disaster strikes and you only have seconds to make the proper decisions, the right safety and emergency management system is an invaluable asset. The AutroMaster includes a Decision Support System (DSS) that will help you make the right decisions at the right time.

AUTRO MASTER

**Easy to use,
provides full overview
and saves valuable time**

AutroMaster editions

AutroMaster ISEMS is the complete AutroMaster edition, including all functionality. In addition, we offer a market specific edition with the modules most relevant for the oil and gas market

Modules/functions	AUTRO MASTER oil & gas edition	AUTRO MASTER ISEMS
Basic functionality		
Fire management basic functions	•	•
MultiSensor control	•	•
Report generator	•	•
Control and monitoring of emergency lights/LLL	•	•
Extended functionality		
AutroSafe IFG unit support	•	•
Touch screen support	•	•
Decision support system/incident manager		•
Electronic plotting table		•
Training/simulation module		•
Event record and replay module		•
Video module (live video support CCTV)	•	•
Remote connect function		•
Message center module		•
Interfaces		
Hernis CCTV interface		•
System-S interface		•
NMEA interface		•
Saia PLC support		•
VDR output		•
Siemens S7 PLC support		•
MODBUS interface		•
ESPA 4.4.4 interface		•

Software licences

Part number	Description
116-PROG-AUTROMASTER-POG	AutroMaster Oil & Gas Edition – For the Petrochemical, Oil and Gas market applications, support for the SIL2 approved AutroSafe IFG panel is mandatory. The AutroMaster Oil & Gas Edition is specially designed to use the AutroSafe IFG functionality to among other functions provide gas trending and LEL indication.
116-PROG-AUTROMASTERISEMS	AutroMaster ISEMS – Provides the full range of functionality – every possible add-on module is included in this package, making it the perfect choice for demanding applications and professional customers.
116-PROG-AM-UPGRADE	Upgrade of AutroMaster to most recent version – Existing AutroMaster customers can upgrade their license to the most recent version of AutroMaster. Requires change of AutroMaster configuration data.

Software modules

Part number	Description
116-PROG-AM-MOD-DSS	Decision Support System (DSS) – An interactive incident management system for AutroMaster. The DSS gives operators access to customer-specified checklists. The checklists are organized as checkpoints with one or more action items that can be used to manage operations, and these can be marked off as actions are completed.
116-PROG-AM-MOD-EPTABLE	Electronic fire control plotting table – gives you a dynamic plotting table to keep track of actors events during an emergency or drill. All EPT activity is logged in the Decision Support System and is available for later reviews.
116-PROG-AM-MOD-TSIM	Training/Simulation module – A tool to simulate pre-configured events. During a simulation it is possible to pause, stop/end, and continue the simulation. Running the simulation tool is similar to running a live event, alarms and faults are acknowledgeable and resettable. Every event is logged, and after a simulation (or a stop), a full log can created and it is possible to replay the simulation using the Event record/replay module.
116-PROG-AM-MOD-EVENT	Event Record/Replay module – Offers a screenshot-based replay of incidents on AutroMaster and can be configured to start recording manually or on pre-configured events as pre-warning, alarm or simulation. Recordings are available for replay, and under replay the operator can start, stop, pause, fast-forward and fast backwards. It is possible to export stored events.
116-PROG-AM-MOD-VIDEO	Video interface module – Includes display of live video in AutroMaster from IP based video cameras.
116-PROG-AM-MOD-REMOTE	Remote Connect function – The Remote Connect Module enables a remote connection to AutroMaster from any location using a server/client technology.
116-PROG-AM-MOD-MC	Message Centre module – In the Message Centre the user can send text messages to telephone systems and other AutroMaster PCs. The user can also send pre-recorded voice messages to PA systems. Requires ESPA 4.4.4. interface.

Interface modules

Part number	Description
116-PROG-AM-MOD-HERNIS	Hernis CCTV interface – Interface enables use of AutroMaster together with video cameras and servers from Hernis.
116-PROG-AM-MOD-NMEA	NMEA interface – A protocol used for interface in between maritime electronic equipment, and AutroMaster has built-in support for this in the NMEA interface module. Interface towards GPS is the most common application.
116-PROG-AM-MOD-SAIAPLC	Saia PLC support – With the Saia PLC support, the AutroMaster can interface towards PLCs using Saia as protocol.
116-PROG-AM-MOD-VDROUTPUT	VDR output – Used in maritime applications for giving output to the Voyage Data Recorder. Configuration of which data and status messages to send to the VDR is done by project engineering.
116-PROG-AM-MOD-S7PLC	Siemens S7 PLC support – With the Siemens S7 PLC support, the AutroMaster can interface towards PLCs using S7 as protocol.
116-PROG-AM-MOD-MODBUS	MODBUS interface – With the MODBUS interface AutroMaster can be connected to almost any kind of electronic equipment for monitoring and control.
116-PROG-AM-MOD-ESPA444	ESPA 4.4.4 interface – Offers a serial protocol intended for the interconnection of paging equipment with telephone exchanges or computer systems. The protocol used is message-based and is built upon the ISO1745 transport specification. Required if Message Centre module is used.

Software hardcopies

Part number	Description
116-PROG-AUTROMASTER-CD	CD containing AutroMaster software required for installation
116-AUTROMASTER-POG-CD	AutroMaster POG back-up CD without licence
116-AUTROMASTERISEMS-CD	AutroMaster ISEMS back-up CD without licence

Engineering

Part number	Description
116-PROSJAMD	Adding of detectors to drawings
116-PROSJAMDF	Adding of color fill for analog values

Hardware

Part number	Description
116-AUTROMASTER-PC-10	PC , desktop version, convertible minitower. Model subject to change without prior notice.
116-AUTROMASTER-RACKPC	19" rack mounted PC
116-5151-020.0210	Industrial PC w/SSD
116-5151-020.1951	19" standard LCD monitor (1280 x 1024 resolution)
116-5151-020.2405	24" widescreen LCD monitor (1920 x 1200 resolution)
116-5151-200.0023	20" monitor, console mounted, JH20T17 MMD
116-5151-017.0002	Keyboard - UK/English character set
116-5151-020.0400	Mouse - USB - 3 buttons
116-5151-017.0010	PC loudspeakers for desktop use
116-5151-017.0011	PC loudspeakers for internal mounting (in 5.25" bay on PC)
116-5760-050.2003	Laser printer, colour, network and USB
116-7190-011.0030	USB printer cable, 3 meters
116-5151-020.0800	3Com switch 5 sp 10/100 109379
116-7190-060.0050	Cat5 patch cable 5 meters, straight
116-7190-060.5050	Cat5 patch cable 5 meters, crossed
116-5151-030.3001	Jetcon 1301-S single mode converter
116-5151-030.3002	Jetcon 1301-M multi mode converter

LOOP UNITS

– a wide range covering your basic fire detection needs

We provide a wide range of loop units for our fire detection systems. Our detectors, manual call points, I/O units, control units and alarm units are developed and approved according to European directives (CPD) requiring EN 54 compliance and other appropriate worldwide regulations.

The loop units are available both with and without SelfVerify function. SelfVerify solves all issues of manual maintenance, leaving time consuming and costly physical testing no longer necessary. With AutroSafe SelfVerify®, the system checks all detectors, interfaces, connections and cables – from detector chamber to alarm output – every single day.

Not only does the system test whether a detector is capable of provoking an alarm, it even verifies the sensitivity of every detector with a calibrated signal. The SelfVerify system ensures that each detector always responds to the correct alarm level. In the event of irregularities, the display on the operating panel will accurately pinpoint the source of any problem.

SelfVerify ensures that you have the safest and most reliable fire safety system available – a system ensuring optimal detection.

SelfVerify ensures optimal detection

Input and output units

AutroSafe offers a wide range of input and output units for many different applications. The system features Exn-, Exia- and Exd approved input and output units for high risk applications. All input and output units feature automatic addressing and short-circuit protection.

Image	Part number	Description	Configurable input	Monitored input	Monitored output	Inputs/outputs	Requires external PSU	SelfVerify	For use in EX areas	Degree of protection*	Notes
	116-BN-180	AutroKeeper						•		IP30	Use two units to access one loop from two loop controllers. DIN rail mounting in cabinet.
	116-BN-201	Monitoring unit	•	•		1/0				IP54 IP67	For external units
	116-BN-221/01	Extinguishing control unit		•	•	2/1	•			IP67	
	116-BN-221/02	Output unit with 7 A relay			•	0/1	•			IP67	Loop controlled FAD unit
	116-BN-300	Input unit	•	•		1/0		•		IP54 IP67	For interfacing external units, clean contacts, alarm relays, etc.

*: When two degrees of protection is given, the lowest is relevant when using the included glands. To achieve the highest, special IP67 glands must be ordered (see page 41)

Input and output units (cont.)

Image	Part number	Description	Configurable input	Monitored input	Monitored output	Inputs/outputs	Requires external PSU	SelfVerify	For use in EX areas	Degree of protection*	Notes
	116-BN-300M	Modular input unit	•	•		1/0		•			Mounting on TS-35 rail
	116-BN-303	Single monitored input unit	•	•		1/0		•		IP54 IP67	Function selectable via dip switch Limited approvals (Not SIL2/FM/USCG)
	116-BN-304	Input/output unit	•	•	•	1/1		•		IP54 IP67	Function selectable via dip switch Limited approvals (Not SIL2/FM/USCG)
	116-BN-305	Dual monitored input/output unit	•	•	•	2/2		•		IP54 IP67	Function selectable via dip switch Limited approvals (Not SIL2/FM/USCG)
	116-BN-307	Monitored Fire Alarm Device Control Unit			•	0/1	•	•		IP54 IP67	Limited approvals (Not SIL2/FM/USCG)
	116-BN-310	Relay output unit				0/1		•		IP54 IP67	

*: When two degrees of protection is given, the lowest is relevant when using the included glands. To achieve the highest, special IP67 glands must be ordered (see page 41)

Image	Part number	Description	Configurable input	Monitored input	Monitored output	Inputs/outputs	Requires external PSU	SelfVerify	For use in EX areas	Degree of protection*	Notes
	116-BN-320	Interface unit	•	•		2/1		•		IP54 IP67	
	116-BN-320/2	Door control unit		•		2/1		•		IP54 IP67	
	116-BN-320/4	Standard control unit		•		2/1		•		IP54 IP67	Control of external equipment
	116-BN-320/5	Sprinkler monitoring unit		•		1/0		•		IP54 IP67	
	116-BNB-330A	Loop adapter unit for conventional loops		•		1/1	•	•		IP20	
	116-BNB-331	Loop adapter unit for conventional loops		•		1/1	•	•		IP20	

*: When two degrees of protection is given, the lowest is relevant when using the included glands. To achieve the highest, special IP67 glands must be ordered (see page 41)

Input and output units (cont.)

Image	Part number	Description	Configurable input	Monitored input	Monitored output	Inputs/outputs	Requires external PSU	SelfVerify	For use in EX areas	Degree of protection*	Notes
	116-BN-500/EX	Input unit	•	•		1/0		•	•	IP54 IP67	For interfacing external units, clean contacts, alarm relays, etc. Zones 0, 1 & 2
	116-BN-500/N	Input unit	•	•		1/0		•	•	IP54 IP67	For interfacing external units, clean contacts, alarm relays, etc. Zone 2
	116-BN-505/EXD	Input unit with BNB-300	•	•		1/0		•	•	IP66	Zones 1 & 2 only

*: When two degrees of protection is given, the lowest is relevant when using the included glands. To achieve the highest, special IP67 glands must be ordered (see page 41)

Control units

AutroSafe offers control units for enabling and disabling of detectors, as well as daytime/nighttime units. Available in several language versions. Replace XX with country code.

Image	Part number	Description	Number of buttons	For external control	Configurable delay	For AutroSafe only	Degree of protection	Notes
	116-BW-200/XX	Disablement unit	2		•		IP66	Available in Swedish, English and Russian
	116-BW-201/XX	Disablement unit	0	•		•	IP66	Available in Swedish and English
	116-BW-202/XX	Daytime/Nighttime unit	2		•	•	IP66	Up to two units can be powered from detector loop. To connect more units, external 24 VDC power is required. Available in English only.
	116-BW-203/XX	Daytime/Nighttime unit	0	•		•	IP66	Up to two units can be powered from detector loop. To connect more units, external 24 VDC power is required. Available in English only.
	116-BU-200	Alarm controller unit	2			•	IP66	

Detectors

AutroSafe offers a wide range of detectors for many different applications, with or without SelfVerify. The following series are available:

- 200 series, standard interactive addressable detectors
- 300 series with SelfVerify, interactive addressable detectors
- 500 series with SelfVerify, interactive addressable detectors for use in hazardous areas

The system also offers Exn- and Exia approved versions of detectors designed for use in high risk applications. S series smoke detectors are specially designed for applications where high sensitivity is required.

Image	Part number	Heat	Smoke	MultiSensor	SelfVerify	Including base	Environmentally protected	For use in EX areas	For use in EX zone 2 only	High sensitivity	Sealed unit	SIL 2 certified	Degree of protection	Notes
	116-BD-200M	•				•	•				•		IP56	For galleys/cold areas (-30 ºC)
	116-BD-501	•			•	•	•				•	•	IP56	
	116-BD-501/EX	•			•	•	•	•			•	•	IP56	
	116-BD-501/N	•			•	•	•		•		•	•	IP56	
	116-BD-55/XXXEXD	•				•	•	•					IP66/67	* Conventional
	116-BD-55/ XXXEXDN	•				•	•		•				IP66/67	** Conventional
	116-BD-505/140EXD	•			•	•		•			•	•	IP66	60 ºC, non-configurable class, explosion proof
	116-BD-505/160EXD	•			•	•		•			•	•	IP66	70 ºC, non-configurable class, explosion proof
	116-BD-505/190EXD	•			•	•		•			•	•	IP66	90 ºC, non-configurable class, explosion proof

*: Available with the following alarm temperatures (replace XXX with °F): 140 °F (60 °C), 160 °F (70 °C), 190 °F (90 °C), 225 °F (110 °C), 325 °F (165 °C), 360 °F (180 °C), and 450 °F (230 °C)

**: Available with the following alarm temperatures (replace XXX with °F): 225 °F (110 °C), 275 °F (135 °C), 325 °F (165 °C), 360 °F (180 °C), and 450 °F (230 °C)

Image	Part number	Heat	Smoke	MultiSensor	SelfVerify	Including base	Environmentally protected	For use in EX areas	For use in EX zone 2 only	High sensitivity	Sealed unit	SIL 2 certified	Degree of protection	Notes
	116-BDH-300	•			•							•	IP44D	
	116-BDH-500	•			•		•					•	IP44D	
	116-BDH-500/EX	•			•		•	•				•	IP44D	
	116-BDH-500/N	•			•				•			•	IP44D	
	116-BHH-300		•		•							•	IP44D	
	116-BHH-500		•		•		•					•	IP44D	
	116-BHH-500/EX		•		•		•	•				•	IP44D	
	116-BHH-500/N		•		•		•		•			•	IP44D	
	116-BHH-500/S		•		•		•			•		•	IP44D	
	116-BHH-500/S/EX		•		•		•	•		•		•	IP44D	
	116-BHH-500/S/N		•		•		•		•	•		•	IP44D	
	116-BHH-320			•	•							•	IP44D	
	116-BHH-520			•	•		•					•	IP44D	
	116-BHH-520/EX			•	•		•	•				•	IP44D	
	116-BHH-520/N			•	•		•		•			•	IP44D	
	116-5815-021.0001	•				•			•				IP54	Thermostat ATHF-SE-2, 20-150°C For use in Safe Area or Ex zone 2 Suitable for use in sauna
	116-5861-033.0150	•				•	•				•		IP65	SWM-1KL 140°C

Manual call points and release stations

AutroSafe offers a wide range of manual call points for different applications, every unit features SelfVerify.
Two main series are available:

- 300 series with SelfVerify, interactive addressable manual call points.
- 500 series with SelfVerify, interactive addressable manual call points for use in special environments.

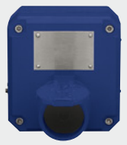
The system features Exn- and Exia approved versions for high risk applications.
All our manual call points can be delivered with a double-action cover.

Image	Part number	Description	For use in EX areas	For use in EX zone 2 only	Watertight / outdoor model	Extreme environments	LED indicator	Metal connection box	Glass NOT included	Duty label, ref. E-2327	Degree of protection*
	116-BF-300V2	Manual call point					•				IP42D*
	116-BF-510WP-H	Manual call point			•	•	•				IP52*
	116-BF-300M/N	Manual call point		•			•	•	•		IP44D*
	116-BF-500V2/EX	Manual call point	•								IP44D*
	116-BF-500/N	Manual call point		•					•		IP44D*

*: Degree of protection, inner housing

Image	Part number	Description	For use in EX areas	For use in EX zone 2 only	Watertight / outdoor model	Extreme environments	LED indicator	Metal connection box	Glass not included	Duty label, ref. E-2327	Degree of protection
	116-BF-501	Manual call point			•	•					IP66
	116-BF-501/EX	Manual call point	•		•	•					IP66
	116-BF-501/N	Manual call point		•	•	•					IP66
	116-BF-502	Manual call point			•	•					IP66
	116-BF-502/EX	Manual call point	•		•	•					IP66
	116-BF-502/N	Manual call point		•	•	•					IP66
	116-BF-503/0100	Manual call point			•	•			N/A		IP66
	116-BF-503/EX/0100	Manual call point	•		•	•			N/A		IP66
	116-BF-503/N/0100	Manual call point		•	•	•			N/A		IP66
	116-BF-503/EX/0200	CO2 release station	•		•	•			N/A		IP66
	116-BF-503/N/0200	CO2 release station		•	•	•			N/A		IP66
	116-KIT-BF-503/EX/0300	Release station	•		•	•			N/A	•	IP66
	116-KIT-BF-503/N/0300	Release station		•	•	•			N/A	•	IP66
	116-KIT-BF-503/EX/0400	Release station	•		•	•			N/A	•	IP66
	116-KIT-BF-503/N/0400	Release station		•	•	•			N/A	•	IP66

Manual call points and release stations (cont.)

Image	Part number	Description	For use in EX areas	For use in EX zone 2 only	Watertight / outdoor model	Extreme environments	LED indicator	Metal connection box	Glass not included	Duty label, ref. E-2327	Degree of protection
	116-BF-503/0500	Release station			•	•			N/A		IP66
	116-KIT-BF-503/EX/0500	Release station	•		•	•			N/A	•	IP66
	116-KIT-BF-503/N/0500	Release station		•	•	•			N/A	•	IP66
	116-BFG-3/XX	Glass for call point, available in several languages. Replace XX with country code.									

*XX replacements:
No ending = No text
D = German
GB = English
GB/AR = English and Arabic
GB/D = English and German
GB/P = English and Portugese
H = Hungarian
N/GB = Norwegian and English
P = Portugese
RC/GB = Chinese and English
SF = Finnish
SU = Russian

MEDC manual call points and release stations

Autronica Fire and Security AS distribute MEDC equipment. Please contact us with yc
These products are produced according to customer specifications.

Alarm units

AutroSafe offers a wide range of alarm units for connection to detection loops or dedicated alarm outputs.

Image	Part number	Description	Loop mounted/addressable	Alarm output mounted	Electronic	Signal presets	Configurable	Watertight	Sound	Light	Sound output (dBA/1m)	Light output (c/j)*	Degree of protection	Notes
	116-BBL-100	Beacon	•							•	-	2 c	IP32C	Supported only by AutroSafe version 4.3 or later
	116-BBL-100/IP	Beacon	•					•		•	-	2 c	IP66	Supported only by AutroSafe version 4.3 or later
	116-BBR-7M	Alarm bell 6"		•						•	93	–	IP55	
	116-BBR-110	Base sounder**	•		•					•	86	–	IP42	Combined detector base and addressable sounder.
	116-BBR-130	Base sounder		•	•		•				90	–	IP32C	Combined detector base and addressable sounder. Supported only by AutroSafe version 4.3 or later

*: Candela (c), Joule (j)
**: If loop driver BSD-311 is used, max. no. of units per loop is 40
If loop driver BSD-310 is used, max. no. of units per loop is 21

Alarm units (cont.)

Image	Part number	Description	Loop mounted/addressable	Alarm output mounted	Electronic	Signal presets	Configurable	Watertight	Sound	Light	Sound output (dBA/1m)	Light output (c/j)*	Degree of protection	Notes
	116-BBR-200	Sounder	•		•		•		•		100	–	IP42	
	116-BBR-200/IP	Sounder	•		•		•		•		100	–	IP66	
	116-BBR-200/W	Sounder	•		•		•		•		100	–	IP42	
	116-BBR-230	Sounder	•				•		•		100	–	IP32C	Supported only by AutroSafe version 4.3 or later
	116-BBR-230/IP	Sounder	•				•	•	•		100	–	IP65	Supported only by AutroSafe version 4.3 or later
	116-BBQ-130	Base sounder w/ beacon	•				•		•	•	90	2 c	IP21C	Combined detector base and addressable sounder/ beacon. Supported only by AutroSafe version 4.3 or later

*: Candela (c), Joule (j)

Image	Part number	Description	Loop mounted/addressable	Alarm output mounted	Electronic	Signal presets	Configurable	Watertight	Sound	Light	Sound output (dBA/1m)	Light output (c/j)*	Degree of protection	Notes
	116-BBQ-230	Sounder/beacon	•				•		•	•	100	2 c	IP32C	Supported only by AutroSafe version 4.3 or later
	116-BBQ-230/IP	Sounder/beacon	•				•	•	•	•	100	2 c	IP65	Supported only by AutroSafe version 4.3 or later
	116-7770-009.0002	Roshni LP, shallow base		•	•	•		•	•		10-112	–	IP54	
	116-7770-009.0004	Roshni LP, shallow base		•	•	•		•	•		102	–	IP54	
	116-7770-009.0005	Roshni, deep base		•	•	•		•	•		102	–	IP65	
	116-7780-004.0001	Flashni, shallow base		•		•		•	•	•	101	0,7 j	IP54	

*: Candela (c), Joule (j)

Alarm units (cont.)

Image	Part number	Description	Loop mounted/addressable	Alarm output mounted	Electronic	Signal presets	Configurable	Watertight	Sound	Light	Sound output (dBA/1m)	Light output (c/j)*	Degree of protection	Notes
	116-7780-004.0002	Flashni, deep base		•		•		•	•	•	101	0,7 j	IP65	
	116-7782-001.0003	Sounder		•					•		110	–	IP66 /67	48 VDC ATEX approval Ex II 2GD EExd IIC T5
	116-4340-006.0201	Xenon beacon		•						•	–	5 j		
	116-4340-006.0924	Solex beacon, shallow base		•	•					•	–	2,5 c	IP54	
	116-4340-006.0925	Solex beacon, deep base		•	•					•	–	2,5 c	IP65	
	116-4340-006.0926	Solex beacon, shallow base		•		•			•	•	–	2,5 c	IP54	

*: Candela (c), Joule (j)

Image	Part number	Description	Loop mounted/addressable	Alarm output mounted	Electronic	Signal presets	Configurable	Watertight	Sound	Light	Sound output (dBA/1m)	Light output (c/j)*	Degree of protection	Notes
	116-4340-007.001	Solista LX beacon, wall mounted , deep base	•		•	•		•		•	–	W-2.4-7.5	IP65	Red flash
	116-4340-007.002	Solista LX beacon, ceiling mounted, shallow base	•		•	•	•			•	–	C-3-7.5	IP33C	Red flash
	116-4340-007.003	RoLP LX base beacon, wall mounted	•		•	•	•	•		•	–	W-2.4-7.5	IP65	Red flash
	116-4340-007.004	Symphoni LX base beacon, wall mounted	•		•	•	•			•	–	W-2.4-7.5	IP21C	Red flash
	116-4340-007.005	Symphoni LX WP conventional base beacon, wall mounted	•		•	•	•	•		•	–	W-2.4-7.5	IP66	Red flash
	116-4340-007.006	Squashni LX conventional sounder/beacon, ceiling mounted	•		•	•	•		•	•	90	C-3-15	IP21C	Red flash

*: Candela (c), Joule (j)

MEDC beacons, sounders, and combination units

Autronica Fire and Security AS distribute MEDC equipment. Please contact us with your request.
These products are produced according to customer specifications.

Door magnet

Image	Part number	Description
	116-6731-017.0002	Door magnet armature. Type AG w/adjustable socket. For use with part no: 116-6731-017.0005
	116-6731-017.0005	Door holding magnet. GPT, holdpower 650 N, 1 W, 40 mA. Manual release push button. DNV approved. For use with part no: 116-6731-017.0002

Accessories for loop units

Part number	Description	Suitable for EX installations
116-BWA-100	Base for interactive detector heads, mandatory	•
116-BWB-110	Base adapter for analogue addressable detectors mounted on interactive loops	
116-BU-47	Alarm indicator for smoke and heat detectors. Will be released by bulletin.	
116-BWP-100/20	Drip proof conduit box with M20 glands	•
116-BWP-100/25	Drip proof conduit box with holes for M25 glands	•
116-BWP-143A	Ventilation duct adapter, for interactive systems	•
116-BJ-358/100	Pipe kit, L=100 mm	•
116-BJ-358/150	Pipe kit, L=150 mm	•
116-BJ-358/300	Pipe kit, L=300 mm	•
116-BJ-358/550	Pipe kit, L=550 mm	•
116-BJ-358/800	Pipe kit, L=800 mm	•
116-BWP-145	Heated detector base	
116-8142-983.5115	Transformer 230/48 V for up to 10 BWP-45/BWP-145	

Accessories for loop units (cont.)

Part number	Description	Suitable for EX installations
116-WBW-100	Bypass unit for BWA-100	•
116-WBW-101	Mounting plate for false ceilings	•
116-BZ-500	Galvanic barrier for Exia approved detectors, for field mounting	
116-BZ-500/01	Galvanic barrier for Exia approved detectors, for cabinet mounting	
116-4890-021.0001	Lift flap in polycarbonate for manual call point 116-BF-502, all versions	•
116-4890-021.0010	Lift flap in stainless steel for manual call point 116-BF-502, all versions	•
116-4890-022.0001	Lift flap in polycarbonate for manual call point 116-BF-501, all versions	•
116-4890-022.0010	Lift flap in stainless steel for manual call point 116-BF-501, all versions	•
116-6571-011.1920	Cable gland M20-1.5 for degree of protection IP67 for I/O units. NB! Order with 116-6531-006.1920	
116-6531-006.1920	Backnut for cable gland IP67. NB! Order with 116-6571-011.1920	
116-7770-009.0008	Power base 230 V for Roshni alarm unit	

Service tools for detection loops

Part number	Description	Suitable for EX installations
116-WAS-2000	AS2000, loop diagnostic tool	
116-WBJ-5/01	Test gas dispenser for smoke detectors, excluding pole	•
116-WBJ-5/02	Telescopic pole, 1,26 m to 4,5 m, 1,8 kg	•
116-WBJ-5/03	Expansion pole, 1,13 m. 0,5 kg	•
116-WBJ-5/04	Test gas for smoke detectors	•
116-WBJ-6/01	Heat detector test kit, battery operated, 2 x batteries and charger included (for WBJ-5/02)	
116-WBJ-10	Testifire smoke/heat detector test kit (head unit 2 x battery baton and fast charger)	
116-WBJ-10/01	Testifire smoke/heat head unit	
116-WBJ-10/02	Smoke capsule for WBJ-10 (6 pack)	
116-WBJ-10/03	Solo 760 battery baton	
116-WBJ-10/04	Solo 725 universal fast battery charger	
116-WBJ-140	Installation/extraction tool for AutroSafe detectors	•

FLAME DETECTION

– keeping a close watch

Autronica's flame detectors are solutions for applications in which risk to personnel is high and where fire might result in a large loss of equipment. Beyond critical life-safety concerns, our products have proven to minimize total cost of ownership while minimizing false alarms.

Our industrial and commercial applications include oil and gas pipelines, turbine enclosures, offshore platforms, and Floating Production Storage and Offloading (FPSO) vessels.

Bottom line – no other company offers more flame-detection technologies with wider area coverage, higher false-alarm immunity, reduced response times, and the appropriate global approvals. And to improve ease of use, all X-Series flame detectors have HART-protocol options.

Protecting life, environment and property by any means necessary

Flame detectors

All flame detectors have 4 x M25 cable entries, unless otherwise specified. Swivel mount, glands and blind plugs are not included.
All detectors have an ambient temperature range of -55°C to + 60°C for T6 and -55°C to + 75°C for T5, unless otherwise specified.
Degree of protection all detectors and cameras: IP66

Image	Part number	Description	Stainless steel housing	Aluminium housing	Addressable (built-in BNB-300)	Combination unit with camera av.	For PowerLoop	Cert. -55 °C to +125 °C for T4	With HART protocol	SIL 2 approved	Notes
	116-5861-011.3220	AutroFlame X22 UV	•			•					
	116-5861-011.3221	AutroFlame X22 UV		•		•					
	116-5861-011.4310	AutroFlame X33AF multisp. IR	•			•					
	116-5861-011.4316	AutroFlame X33AF multisp. IR	•			•					Low sense
	116-5861-011.4320	AutroFlame X33AF multisp. IR		•		•					
	116-5861-011.4322	AutroFlame X33AF multisp. IR		•		•					High sense
	116-5861-011.4323	AutroFlame X33AF multisp. IR		•		•					Low sense
	116-5861-011.4340	AutroFlame X33AF multisp. IR	•					•			
	116-5861-011.4341	AutroFlame X33AF multisp. IR	•		•			•			
	116-5861-011.4360	AutroFlame X33AF multisp. IR		•				•			
	116-5861-011.4361	AutroFlame X33AF multisp. IR		•	•						
	116-5861-011.4371	AutroFlame X33AF multisp. IR		•					•		
	116-5861-011.4373	AutroFlame X33AF multisp. IR	•						•		
	116-5861-011.4381	AutroFlame X33AF multisp. IR		•				•	•		
	116-5861-011.4383	AutroFlame X33AF multisp. IR	•					•	•		
	116-5861-011.4384	AutroFlame X33AF multisp. IR		•				•	•	•	
	116-5861-011.4385	AutroFlame X33AF multisp. IR	•					•	•	•	

Flame detectors (cont.)

Image	Part number	Description	Stainless steel housing	Aluminium housing	Addressable (built-in BNB-300)	Combination unit with camera av.	For PowerLoop	Cert. -55 °C to +125 °C for T4	With HART protocol	SIL 2 approved	Notes
	116-5861-011.4391	AutroFlame X33AF multisp. IR		•					•	•	
	116-5861-011.4392	AutroFlame X33AF multisp. IR	•						•		UL Brazil approved 3/4" NPT
	116-5861-011.4393	AutroFlame X33AF multisp. IR	•						•	•	
	116-5861-011.4410	AutroFlame X33AF PL multisp. IR	•				•				
	116-5861-011.4411	AutroFlame X33AF PL multisp. IR	•				•				3/4" NPT
	116-5861-011.4420	AutroFlame X33AF PL multisp. IR		•			•				
	116-5861-011.4421	AutroFlame X33AF PL multisp. IR		•			•				Low sense
	116-5861-011.4440	AutroFlame X33AF PL multisp. IR	•				•	•			
	116-5861-011.4460	AutroFlame X33AF PL multisp. IR		•			•	•			
	116-009009-002	AutroFlame X32AF multisp. IR		•							Hydrogen flame detection
	116-009011-002	AutroFlame X32AF multisp. IR	•								Hydrogen flame detection
	116-5861-011.3520	AutroFlame X52 UV/IR	•			•					
	116-5861-011.3521	AutroFlame X52 UV/IR		•		•					
	116-5861-011.3522	AutroFlame X52 UV/IR	•								UL Brazil approved 3/4" NPT
	116-5861-011.3980	AutroFlame X98 single IR	•			•					
	116-5861-011.3981	AutroFlame X98 single IR		•		•					
	116-009585-001	xWatch surveillance camera		•							For use with any flame detector above. M20 PAL video output. For use in EX areas FM/CSA approved 768 x 484 px 90° optical lens*
	116-009587-001	xWatch surveillance camera	•								

*: Other lenses available.

Cable glands/Blind plugs

Part number	Description
116-6332-032.1925	Blind plug M25, polyamid, Eexe, degree of protection: IP67
116-6530-030.0020	SPMH/NP/M20 blind plug nickle plated brass
116-6530-030.0025	SPMH/NP/M25 blind plug nickle plated brass
116-6571-016.2520	Cable gland adapter M20/M25
116-6571-018.2025	EEXDE adapter M25-20 nickle plated brass
116-6571-070.2025	Cable gland A2LBFM25NP, Brass - nickel plated, Exd/Exe, Degree of protection: IP66/68
116-6571-071.2500	Cable gland M25, polyamid, Eexe, degree of protection: IP67
116-6571-080.0001	501/453/UNIV/B M25 nickle plated brass
116-6571-080.0002	501/421/B M25 EEXE nickle plated brass
116-6571-080.0004	501/453/UNIV/OS-M20 nickle plated brass
116-6571-080.0005	501/453/UNIV/O-M20 nickle plated brass
116-6571-080.0006	501/453/UNIV/A-M20 nickle plated brass
116-6571-080.0007	501/421/Os M20 EEXE nickle plated brass
116-6571-080.0008	501/421/O M20 EEXE nickle plated brass
116-6571-080.0009	501/421/A M20 EEXE nickle plated brass

Accessories

Part number	Description
116-001680-001	K1003A1006 Window cleaner for flame detectors (6 pcs.)
116-004404-002	Q9001H8001 swivel for xWatch camera SS
116-002099-003	Q9001B1175 swivel for xWatch camera alu.
116-5861-011.9050	Q9033B Swivel mount for AutroFlame detectors, stainless steel
116-5861-011.9051	Q9033A Swivel mount for AutroFlame detectors, aluminium
116-007338-010	Q2033A10R 10 degree field-of-view limiter
116-007338-020	Q2033A20R 20 degree field-of-view limiter
116-007338-030	Q2033A30R 30 degree field-of-view limiter/Weather shield (maintains standard field-of-view)
116-007240-001	Q1116A air shield assembly
116-009199-001	Q1198A dual air shield/flange mount assembly

Test equipment

Part number	Description
116-006439-004	W8067S Long range test lamp IR/UVIR, (non-EX)
116-004000-006	W867C Portable test lamp 220 V, UV, UV/IR & Single IR
116-007255-001	Q1201C Laser holder for AutroFlame X33AF, UV/IR and UV flame detectors
116-006097-001	Laser aimer (non-EX) for AutroFlame detectors incl. battery
116-009997-001	Charger and battery, for test lamp 116-004000-006
116-007819-001	W6300B Inspector connector for connection to PC utilizing an integral RS485 to RS232 converter for communication
116-009207-001	Inspector monitor software. To be used together with inspector connector
116-009208-001	O/I replacement kit for AutroFlame X33AF with black reflector plate*
116-010831-001	O/I replacement kit for AutroFlame X33AF with stainless steel reflector plate*
116-009208-002	O/I replacement kit for AutroFlame X22, X52 and X98
116-102740-002	Test magnet for AutroFlame X33AF
116-007739-001	Test magnet and extension pole

*Please note: AutroFlame X33AF models are supplied with either a black or a stainless steel reflector plate. These plates are not interchangeable. Order the replacement that matches the reflector plate on your AutroFlame X33AF detector.

GAS DETECTION

– when every second counts

When it comes to detecting toxic gas would you rather be alerted in 30 seconds... or 5 seconds?

In the demanding environments of the petrochemical oil and gas industry, fire and gas detection has to deliver optimal results at all times. Autronica offers traditional detectors with 4-20 mA and/or relay output, but we have also taken the IR point gas detection a step further. By introducing the two wire intelligent communication on our IFG PowerLoop we allow for centralized control of all diagnostic data. Analogue readings and detector self testing features are available from our AutroPoint IR gas detectors.

The open path IR gas sensing technology surpasses other alternatives, both with respect to the life cycle cost as well as operational tangibles of a more technical nature. Our AutroPath HC600 open path infrared beam system delivers reliable, combustible gas monitoring for all types of applications.

The FlexSonic Acoustic Gas Leak Detector hears gas leaks that others don't – the instant they occur. It is the first non-contact gas leak detector of its kind that recognizes unique sound "fingerprints," analyzing 24 discrete ultrasonic bands, while ignoring nuisance ultrasonic sources. A high-fidelity microphone continuously monitors for the distinct ultrasound emitted by pressurized gas leaks across the widest spectrum of frequencies.

With our AutroTox toxic gas detector family, you get a gas detector that continuously monitors the atmosphere for potentially hazardous gas leaks and oxygen depletion. An array of sensor models detect a variety of gases in various concentration ranges.

Autronica delivers the performance, quality, and reliability you can depend on to keep you safe and satisfied.

Gas detectors

Image	Part number	Description	Infrared hydrocarbon	Acoustic	Stainless steel housing	With hydrophobic filter*	With relay output	HART protocol included	Cable entries	Notes
	116-5861-011.5100	AutroPoint HC200	•		•			•	2 x M25	
	116-5861-011.5101	AutroPoint HC200	•		•	•		•	2 x M25	
	116-5861-011.5102	AutroPoint HC200	•		•			•	2 x 3/4" NPT	Cepel approved
	116-5861-011.5200	AutroPoint HC200	•		•		•	•	2 x M25	
	116-5861-011.5201	AutroPoint HC200	•		•	•	•	•	2 x M25	
	116-5861-011.5300	AutroPoint HC300PL	•		•				2 x M25	Addressable, PowerLoop version
	116-5861-011.5301	AutroPoint HC300PL	•		•	•			2 x M25	Addressable, PowerLoop version
	116-GD10-P00-17DG-0XH-00	GD-10P	•		•			•	2xM20	5 sec. response
	116-GD10-P00-17DG-0XH-01	GD-10P	•		•			•	2xM20	1 sec. response
	116-5861-011.6100	AutroPath HC600	•		•			•	2 x M25	
	116-Z-02104N4011	Searchline Excel IR gas detector	•		•					
	116-Z-02104NXSSA	Searchline Excel IP gas detector	•		•			•		With SNX universal transmitter
	116-012152-001	FlexSonic AC100/ ATX kit		•	•			•	3/4" NPT	SIL 2 approved
	116-012153-001	FlexSonic AC100/ ATX kit		•	•			•	M25	SIL 2 approved

*: Recommended for areas with high levels of airborne particulates or humidity.

Other detectors available on request.

Toxic gas detectors

Autronica provides toxic gas detectors for a wide range of gases. These detectors must be combined with a toxic gas sensor module, listed below. The detectors each have a 4-20 mA output and 2 x M25 cable entries. HART protocol is included.

Image	Part number	Description	Electrochemical	NTMOS	Stainless steel housing	Aluminium housing	With relay output	RS485 output	Eex d certified	Eex ia certified	Notes
	116-5861-011.6601	AutroTox GTD w/AutroVu AV10 display unit	•			•	•	•	•		
	116-5861-011.6603	AutroTox GTD w/AutroVu AV10 display unit	•		•		•	•	•		
	116-5861-011.6609	AutroTox GTD w/AutroVu AV20 display unit		•		•				•	
	116-5861-011.6611	AutroTox GTD w/AutroVu AV20 display unit		•	•					•	

Toxic gas sensor modules

Image	Part number	Description	Range
	116-009471-001	GTS H_2S 20P	0 – 20 ppm
	116-009471-002	GTS H_2S 50P	0 – 50 ppm
	116-009471-003	GTS H_2S 100P	0 – 100 ppm
	116-009471-004	GTS Cl_2 10P	0 – 10 ppm
	116-009471-006	GTS NH_3 500P	0 – 500 ppm
	116-009471-008	GTS H_2 1000P	0 – 1000 ppm
	116-009471-009	GTS O_2 25V	0 – 25 % by volume
	116-009471-010	GTS CO 100P	0 – 100 ppm
	116-009471-011	GTS CO 500P	0 – 500 ppm
	116-009471-013	GTS SO_2 20P	0 – 20 ppm
	116-009471-014	GTS SO_2 100P	0 – 100 ppm
	116-009471-502	GTS H_2S 50PTD, DNV approved	0 – 50 ppm
	116-009471-503	GTS H_2S 100PTD, DNV approved	0 – 100 ppm
	116-009471-509	GTS O_2 25VTD, DNV approved	0 – 25 % by volume
	116-009471-510	GTS CO 100PWD, DNV approved	0 – 100 ppm
	116-009471-511	GTS CO 500PWD, DNV approved	0 – 500 ppm

INMETRO approved versions available

Display units

All display units have 4-20 mA output and HART protocol included

Image	Part number	Description	Electrochemical	NTMOS	Catalytic combustible	Stainless steel housing	Aluminium housing	RS485 output	Relay output	Eex d	Eex ia	Cable entries	Notes
	116-5861-011.6301	AutroVu AV10	•				•	•	•	•		5xM25	
	116-5861-011.6303	AutroVu AV10	•			•		•	•	•		5xM25	
	116-5861-011.6382	AutroVu AV10	•				•	•	•	•		3/4 NPT	INMETRO (Brazil)
	116-5861-011.6384	AutroVu AV10	•			•		•	•	•		3/4 NPT	INMETRO (Brazil)
	116-5861-011.6401	AutroVu AV10		•			•	•	•	•		5xM25	
	116-5861-011.6403	AutroVu AV10		•		•		•	•	•		5xM25	
	116-5861-011.6421	AutroVu AV10 CGS			•		•	•	•	•		5xM25	
	116-010254-003	AutroVu AV10 CGS			•	•		•	•	•		5xM25	
	116-5861-011.6505	AutroVu AV20	•				•				•	5xM25	
	116-5861-011.6507	AutroVu AV20	•			•					•	5xM25	

Toxic gas transmitters and termination boxes

Image	Part number	Description	Electrochemical	NTMOS	Stainless steel housing	Eex d certified	Notes
	116-009480-004	GTX Transmitter	•		•	•	
	116-226365-603	STB Termination Box	•		•	•	For GT3000, M25, SS, 5 ports
	116-009910-004	NTM1B10W NTMOS H2S Sensor (0-100 ppm)		•	•	•	
	116-009958-002	GDTB Termination Box		•	•	•	

Accessories

Part number	Description
116-000912-006	Q912 Duct Mount Kit
116-007355-001	Duct mount assembly for point gas detectors AutroPoint HC200 and HC300PL. One duct air inlet tube and one return tube. Pipe length to be specified: 1 ft/305 mm (116-000214-281) 3 ft/915 mm (116-000214-282) 6 ft/1830 mm (116-000214-283) 10 ft/3050 mm (116-000214-284)
116-007525-003	Direct duct mount kit for point gas detectors AutroPoint HC200 and HC300PL
116-007902-002	System test film 1.1-1.5 LFL - Low alarm
116-007902-003	System test film 1.9-2.5 LFL - High alarm
116-008987-001	Aperture kit for HC600, SS, for distances of 5 to 30 meters
116-009296-001	Aperture kit for HC600, plastic, for distances of 5 to 30 meters
116-009104-001	Alignment telescope for AutroPath HC600
116-226365-111	Toxic sensor termination box and separation kit. JBOX, SEP, AL, M20 CENELEC toxic
116-226365-127	Toxic sensor termination box and separation kit. JBOX, SEP, AL, M25 CENELEC Infinity
116-6332-032.1925	Blind plug M25, polyamid, Eexe, degree of protection: IP67
116-6571-071.2500	Cable gland M25, polyamid, Eexe, degree of protection: IP67
116-US-843	Rain and sun shield for point gas detectors AutroPoint HC200 and HC300PL
116-Z-475HP1EKL9GMT	Emerson 475 HART communicator. Instrument for calibration of AutroPoint HC200 and AutroPath HC600 gas detectors. Certified intrinsically safe by CENELEC/ATEX, FM, CSA, FISCO and IECEx
116-Z-GD10-ADAPT1	Duct adapter for point gas detector GD-10P
116-Z-499815712	Sunshade, GD10/PGD10PE
116-Z-ES-244	Gas detector test point

For cable glands and blind plugs, see flame detector section, page 45.

Calibration kits

Part number	Gas type	Concentration	Notes
116-006468-001	Methane CH_4	50 % LEL	AutroPoint HC200/-300
116-007098-005	Hydrogen Sulphide H_2S	50 ppm	12 x ampoules, NTMOS detectors
116-010274-001	Hydrogen Sulphide H_2S	10 ppm	GT3000 series
116-010274-002	Hydrogen Sulphide H_2S	25 ppm	GT3000 series
116-010274-004	Chlorine Cl_2	5 ppm	GT3000 series
116-010274-005	Ammonia NH_3	50 ppm	GT3000 series
116-010274-006	Ammonia NH_3	250 ppm	GT3000 series
116-010274-008	Hydrogen H_2	500 ppm	GT3000 series
116-010274-009	Oxygen O_2	20,90 %	GT3000 series
116-010274-010	Carbon Monoxide CO	50 ppm	GT3000 series
116-010274-011	Carbon Monoxide CO	250 ppm	GT3000 series
116-010274-013	Sulfur Dioxide SO_2	10 ppm	GT3000 series
116-010274-014	Sulfur Dioxide SO_2	50 ppm	GT3000 series
116-225130-005	Hydrogen H_2	50 % LEL	AutroPoint H_2
116-225130-009	Without gas	–	AutroPoint H_2

Accessories for calibration kits

Part number	Description
116-004976-001	Calibration cup for catalytic detectors, stainless steel
116-005964-001	Calibration cup for point gas detectors AutroPoint H_2S, O2 and TX50
116-006672-002	Windshield calibration bag for AutroPoint HC200/-300
116-225741-001	Extra ampoules for 116-007098-005 NTMOS Calibration Kit H_2S Ampoule, 50 ppm
116-227117-001	GT3000 replacement cylinder H2S 50 ppm
116-227117-006	GT3000 replacement cylinder O2 20,90%
116-227117-012	GT3000 replacement cylinder H2S 25 ppm
116-227117-018	GT3000 replacement cylinder H2 500 ppm
116-Z-00670	Step regulator with 0,5 L constant flow
116-Z-00671	Step regulator with 1 L constant flow
116-Z-00678	Carrying case for 2 bottles
116-Z-1200674	2.5 LPM constant flow regulator
116-Z-1711020	Test gas, 65 % LEL methane in N2. 110 L
116-Z-1501020	Test gas, 50 ppm H_2S. 110 L
116-Z-1404010	Test gas, 50 % LEL H_2. 110 L
116-Z-499810874.8	Sample Flow Housing for point gas detector GD-10P
116-Z-03150	Viton hose pr. meter
116-Z-1200673	Reg. valve 0.3-3.0 L/min

Other concentrations and test gases available on request.

OTHER DETECTORS

– completing the fire detection system

Alarmline linear heat detection (LHD) is a cable-based system providing economical temperature monitoring at the precise point of risk. The system is reliable, flexible and has the ability to detect abnormal temperature variances before fire breaks out. The comprehensive LHD product portfolio allows a vast range of commercial and industrial fire and overheat risks to be protected, in ambient temperatures of 68°C to 174°C. Other options/alarm temperatures available on request.

Aspirating detectors function by sampling air via a network of pipes, sampled air is passed through a dust filter and into a detector chamber where the air is analyzed for traces of smoke. Typical applications include laboratories, large open spaces, corrosive environments, archives/historical buildings and industrial areas. Every detector is "trainable" for the specific environment in which it is installed.

Common to all AutroSense detectors is that they are capable of detecting the small amounts of smoke that are generated in the initial phases of a smouldering fire, ensuring the earliest possible warning of a potential fire. At the same time, AutroSense detectors distinguish real smoke from dust and pollutants, reducing unwanted alarms to a minimum.

AutroSense 200, AutroSense Micra 25 and Micra 100 are stand-alone aspirating detectors, that can also be connected to fire alarm systems. These units feature built-in intelligence that ensures optimal detection capability.

Beam detectors are used in large open areas instead of a quantity of point smoke detectors. The detector protects a given area by sending signals (infrared light beam) between a transmitter and receiver, and detect dimmer or changes in frequency by heat or smoke. Beam detectors are suited to applications in open spaces where costs associated with point smoke detectors would be prohibitive.

One supplier
– total fire safety

Alarmline linear heat detectors

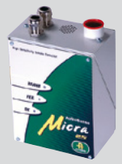
Image	Part number	Description
	116-5843-005.0001	Alarmline analogue cable, K82017
	116-5843-005.0003	Alarmline analogue cable, bronze, K82078
	116-5843-006.0001	Interface unit (K82012F) for high-resistance sensor
	116-5843-005.3100	Alarmline digital cable, 68 ºC nominal, H8040
	116-5843-005.3200	Alarmline digital cable, 68 ºC nominal, H8040N
	116-5843-005.2101	Alarmline digital cable, 85 ºC nominal, H8045
	116-5843-005.0101	Alarmline digital cable, 105 ºC nominal, H8028
	116-5843-005.1101	Alarmline digital cable, 174 ºC nominal, H8069

Recommended interface unit for Alarmline linear heat detectors is BN-303 (see page 26)

Accessories

Part number	Description
116-5843-005.9002	Alarmline L-bracket
116-5843-005.9003	Alarmline edge clip
116-5843-005.9004	Alarmline T-clip
116-5843-005.9005	Alarmline pipe clip
116-5843-006.0010	Termination kit K82023
116-5843-007.0001	EEXE Junction box tank roof
116-5843-007.0002	Automatic cable reel
116-5843-007.0003	Neoprene sleeve B6782-08
116-5843-007.0004	Cable ties B6782-121

Aspirating detectors

Image	Part number	Description	Sensitivity (obsc./m)	Max. length piping	Max. coverage (FG)	Max. coverage BS6266 (Hot Wire Test)	Sampling pipe inlets	Max. sampling holes	Alarm levels	Relays
	116-5861-018.2000	AutroSense 200	0,0015–25%	200 m	2000 m^2	500 m^2	4	100	4	5
	116-5861-018.1007	AutroSense Micra 25	0,0015–25%	25 m	450 m^2	450 m^2	1	10	1	2
	116-5861-018.1107	AutroSense Micra 100	0,0015–25%	100 m	1600 m^2	500 m^2	2	50	1	2

Recommended interface unit for AutroSense 200 is BN-305 (see page 26)
Recommended interface unit for AutroSense Micra is BN-303 (see page 26)

Accessories

Part number	Description
116-5861-018.2110	AutroSense command module w/o PSU
116-5861-018.4110	AutroSense Micra relay card w/inputs
116-5861-018.9027	AutroSense 200 dust filter
116-5861-018.9028	AutroSense Micra 25 and 100 dust filter
116-5861-018.3051	Wire burn unit
116-5861-018.9999	Cable for "hot wire" test (roll @ 100 m)
116-BW-75/04	Condensation bottle
116-BW-75/06	Filter
116-BWP-144	AutroSense, detector housing for sampling pipes with detector base BWA-100
116-BWP-44	AutroSense, detector housing for sampling pipes with detector base BWA-40A/1
116-E-2446/1	Label for "DET. POINT"
116-E-2446/2	Label for sampling pipe "Warning"

Piping – halogen free

Part number	Description
116-5861-910.0025	Straight pipe L=3 m HFBS 25 mm
116-5861-912.0025	Bend 90GR HFNB 25 mm
116-5861-914.0025	Joint HFSM 25 mm
116-5861-915.0025	Cabinet gland HFAFT/MBS 25 mm
116-5861-920.0025	T-piece HFIT 25 mm
116-5861-923.0025	Blind plug DPD-25-01 25 mm
116-5861-925.0025	Pipe fastener HFCL 25 mm
116-5861-935.0001	Sealant HVKS 310
116-5861-930.0100	Box 165 x 105 x 64 mm HPKGH 100 OP
116-5862-001.0025	Water pipe in coil 25mm PE50 NT10
116-6360-023.0810	Capillary tube Ø=10 mm

16 mm piping delivered on request

Beam detectors

Image	Part number	Description	Detection distance	Degree of protection
	116-5861-021.1001	AutroBeam 100, transmitter (Tx)	5 – 150 m	IP40
	116-5861-021.2001	AutroBeam 100, receiver (Rx)	5 – 150 m	IP40
	116-5861-023.5101	FireRay 5000-101 Auto aligning infrared optical beam detector. Transmitter/receiver in the same housing, plus reflector.	5 – 50 m	IP54
	116-5861-023.5102	FireRay 5000-102 Auto aligning infrared optical beam detector. Transmitter/receiver in the same housing, plus reflector.	50 – 100 m	IP54

The AutroBeam 100 is delivered with interface unit BN-40A.
Recommended interface unit for FireRay 5000 is BN-303 (see page 26)

Accessories

Part number	Description
116-5861-021.3002	Calibration tool for AutroBeam 100
116-5861-021.3003	SAC alarm simulator for AutroBeam 100
116-5861-023.5002	FireRay 5000-002 50 m detector, 1 x detector head and 1 x reflector
116-5861-023.5039	FireRay 5000-039 100 m detector, 1 x detector head and 4 x reflector
116-5861-023.5003	FireRay 5000-003 1 x System controller
116-5861-023.5005	FireRay 5000-005 Universal bracket for use with FireRay 5000 detector head or reflector mounting plate (FireRay 5000-007/5000-008)
116-5861-023.5006	FireRay 5000-006 Surface mounting plate for 1 or 4 reflectors
116-5861-023.5007	FireRay 5000-007 Mounting plate for 4 reflectors for use with bracket FireRay 5000-005
116-5861-023.5008	FireRay 5000-008 Mounting plate for 1 reflector for use with bracket FireRay 5000-005
116-5861-023.5004	50-100 m kit for FireRay 5000, included in FireRay 5000-102

OMICRON SYSTEMS

– solutions you can trust

The Omicron systems by Autronica include high level/overfill alarm systems, gas detection systems, tank and vapour pressure systems, temperature alarms and calibration equipment. Since delivery of the first generation independent high level system in 1989, we have developed a range of high-tech systems for the shipping and offshore industry. More than 5000 vessels are using system equipment.

The systems are designed to attract minimum maintenance overheads. We deliver reliable, service-friendly systems to meet owners' and regulatory requirements. The systems fulfil IMO, IACS, EC, USCG and classification societies' regulations.

The Omicron systems are based largely on tailor made solutions for FPSOs. Therefore, we give you a short description of the complete systems rather than a description on part number level. Please contact us for more information.

Premium quality
safety monitoring and
environmental surveillance

OMICRON

Gas sampling system – OGS 3.1 and OGS 3.11

For total solutions in gas sampling

Omicron gas sampling system OGS 3.1 is our advanced model for special requirements. Different models and options cover most applications you will find onboard any kind of tankers with special needs. All delivered parts are completely assembled ready for interconnection to on-site application. OGS 3.1 is based on a scanning method, which means that sample points are being connected to sensor(s) in a cyclic sequence. The operator panel has an LCD display and individual LED lamps indicating each measuring point status. To minimize scanning cycle time and guarantee fresh samples at all times, the system has two vacuum pumps. One main pump, continuously sucking from all sample points and a smaller sample pump taking samples from the actual point according to the sequence. This insures quick response if gas is detected. Purging of sample line is done immediately after each sampling is finished.

New design of the well known OGS 3.1 gas sampling system (smaller and more compact).

Gas sampling systems can be used in all spaces where gas detection is requested, and they can handle several gasses simultaneously. Our systems have the unique automatic "blow-back feature", which together with two sampling pumps create a rapid and clean sampling cycle. Hence, for gas tankers we are able to handle more points and still maintain the 30 minute rule of IMO Gas Code.

Standard features:

- Infrared hydrocarbon sensor with range 0 - 100 % L.E.L
- Low and high gas alarms
- Flame arrestor and shut-off valve for each sampling tube
- Automatic and sequential purging of each sampling tube
- Manual disconnection of sampling points not in use (e.g. when water in ballast tanks)
- Two vacuum pumps (main and sample)
- Non-return valves mounted on deck for ballast tanks in order to avoid liquid entering into the system
- Extensive hardware and software system monitoring

Optional features:

- Up to 5 additional units with control transfer function.
- Multiple operating panels
- Remote alarm unit. Simple alarm status panel with LEDs and buzzer (e.g. for Bridge)
- Aux. relay outputs. Up to 32 relay outputs, freely configurable to any sample point
- Standby pump with manual switch over
- Dual purge supply (E.g. nitrogen and instrument air)
- Multi-gas detection. Up to 3 different gas sensors can be installed
- Alarm printer
- Bulkhead penetrations
- Automatic disconnection of sample line when sample point is manually disconnected from scanning cycle
- RS 485/422 MODBUS RTU serial line output to external computer
- Custom made systems on request

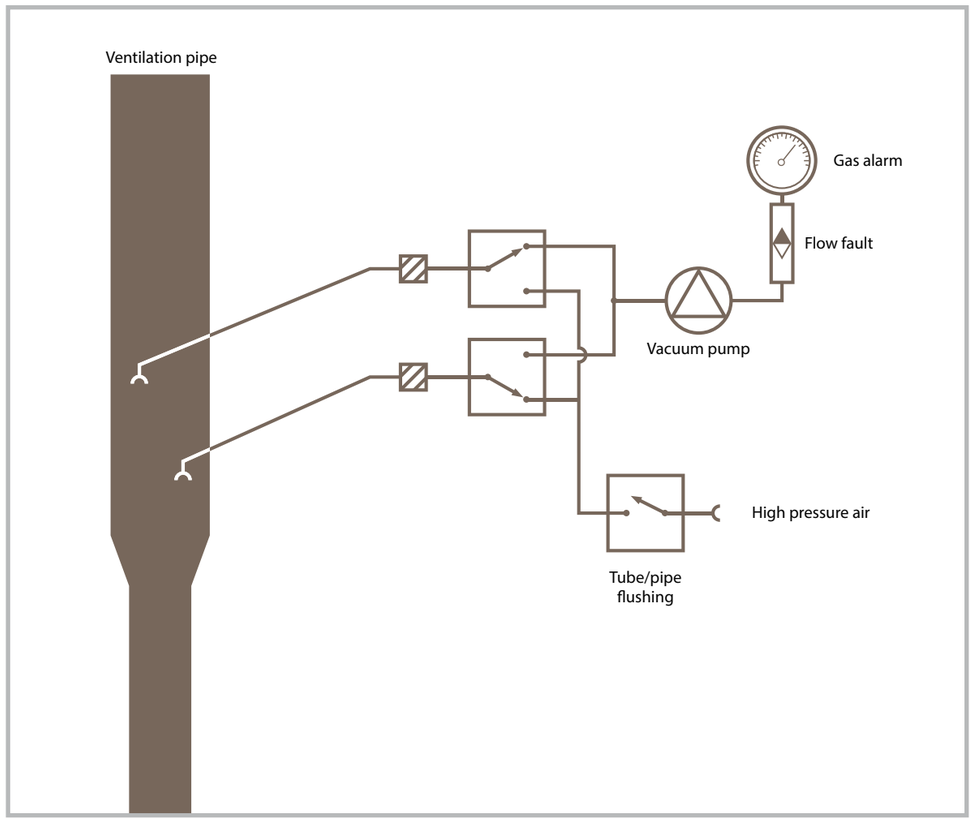
Direct gas sampling system – OGS 2.1 sampling

Gas detection in harsh areas such as shale shaker rooms etc.

Omicron direct gas sampling system OGS 2.1 sampling is specially made for "direct detection" of harsh areas.

Principle
The direct gas sampling system consists of two cabinets; one detector cabinet approved for mounting in a Zone 1 area, and one electronic cabinet with power supply, barrier units and alarm panel typically mounted in the cargo control room (CCR).

The dual sampling lines cover the same "sampling location". A built-in purging feature, cleaning the lines sequentially with overlapping detection (line 1 & 2), provides continuous and reliable detection at the monitored area.



Water ingress system – OAS WI

For high level and overfill

The Omicron water ingress system has been specially designed and manufactured for detecting the presence of water in the inner bottom in any holds reaching a height of 0,5 m and another height of not less than 15 % of the depth of hold but not more than 2 m. Furthermore, also holds located partially or totally forward of the foremost cargo hold, and ballast tanks located forward of the foremost cargo hold, collision bulkhead of Bulk carrier, in conformity with SOLAS regulation XII/ 12 rule requirement

The system consists of a main alarm panel with cabinet and level sensor operated by detecting the conductivity in a liquid when present. The sensor and the alarm panel are connected together with an intrinsically safe barrier. When the presence of water has reached the detecting points (ref. rule requirement) of level sensor installed at the preset level in the cargo hold or other space, the electric signals which are activated on the level switches are transmitted to the main alarm panel. At the same time, the audible and visual alarms are activated on the main alarm panel.

The system has also all necessary functions like loop monitoring of sensors and power failure. An overriding device ensures that the alarm can be deactivated or reactivated for the detector installed in the tank and holds used for carriage of water ballast according to the SOLAS regulation XIII 12.1. The main power and standby power are prepared in such way that if the main power fails, the standby power will provide continuous power to the alarm panel, and an alarm will be given.

The sensor:
Type WI-22 designed for various locations onboard a bulk carrier. The construction is unique with the following advantages:

- Complete unit in stainless steel.
- Non movable parts due to "conductivity principle".
- Classified as "simple apparatus"
- IP68/ 2.5 bar with 35 m signal cable and mounting bracket included.
- Tested working temperature -25 to 120 °C.
- Easy to function test.
- Designed without any active electronic components on deck.
- Can operate in all sorts of bulk cargoes.

The alarm cabinet:
Type OAS is a complete signal monitoring and alarm unit which is delivered for three alarm sensors per cargo hold. The third channel (free of charge) can be used for alarm sensor on top of the cargo for covering water penetration through hatch covers.

- Intrinsically safe connections to sensors.
- Potential free contacts for common external alarms and light & horn.
- All normal alarm functions.
- Optional RS485/-422 serial line communication with host computer.
- The Alarm Panel can either be mounted in the front door of the alarm cabinet or in a common console.
- Power supply: 115/230 VAC, Emergency power supply 24 VDC

CONTACT INFORMATION

HEAD OFFICE STAVANGER, NORWAY
Autronica Fire and Security AS
Div. Oil & Gas
Lagerveien 24
NO-4033 Stavanger
Norway
Phone: +47 51 84 09 00
Fax: +47 51 84 09 99

EUROPE
Autronica Fire and Security AS
Div. Oil & Gas Europe
Stalsbergv. 9
NO-3128 Nøtterøy
Norway
Phone: +47 33 38 25 00
Fax: +47 33 38 25 25

UK & IRELAND
Autronica Fire and Security AS
Div. Oil & Gas
Lagerveien 24
NO-4033 Stavanger
Norway
Phone: +47 51 84 09 00
Fax: +47 51 84 09 99

AMERICAS
Autronica Fire and Security AS,
Div. Oil & Gas Americas
10607 Haddington Drive, Suite 100
Houston, Texas 77043
USA
Phone: +1 713-290-8624
Fax: +1 713-290-8625

AUSTRALASIA
Autronica Fire and Security AS
Div. Oil & Gas Australasia
P.O.Box 5620
NO-7483 Trondheim
Norway
Phone: +47 73 58 25 00
Fax: +47 73 58 25 01

MIDDLE EAST/SAUDI ARABIA
UTC Fire Safety Middle East
P.O. Box 30791
Dubai
United Arab Emirates
Tel. +971 44 199 306
Fax. +971 4 454 1391
Mob. +971 56 6967152

ASIA PACIFIC/KOREA
Autronica Fire and Security AS
Div. Oil & Gas Asia Pacific
Good Centrum B/D 67
Centumdong-ro,
Huaeundae-gu,
Busan
Rep. of Korea 612-020
Phone: +82 70 7122 9170

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Oil and gas installations in the North Sea are among the safest in the world, and we are bold enough to take some of the credit. For years we have been a preferred supplier of fire and gas safety systems in the petrochemical, oil and gas market.

We make world class products, but believe that even the very best can get better. With this mindset we provide safety to an entire industry where security is essential.

Autronica is a leading innovator, manufacturer and supplier of fire safety equipment. Our products ensure safety in applications on land and sea worldwide. The company is owned by United Technologies Corporation (UTC) and employs more than 380 people with great skill and experience in the developing, manufacturing and marketing of fire safety equipment. Autronica Fire and Security AS is an international company based in Trondheim, a dynamic city known as the technological hotspot of Norway.

Protecting life, environment and property

PETROCHEMICAL, OIL AND GAS

Autronica Fire and Security AS
Division Oil & Gas | Lagerveien 24, NO-4033 Stavanger, Norway | Tel: +47 51 84 09 00 | Fax: +47 51 74 09 99
E-mail: oil.gas@autronicafire.no | www.autronicafire.com

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